

ATTACHMENT 6
PERSONNEL TRAINING [40 CFR 264.16; R315-8-2.7]

6.1 INTRODUCTION

The Munitions Management Device, Version 1 (MMD-1) training program will provide MMD-1 test personnel with the necessary knowledge and skills to perform hazardous waste duties safely and efficiently, and will ensure that hazardous activities are conducted in an environmentally sound manner. The purpose of this training program is to prepare MMD-1 test personnel for MMD-1 test responsibilities, with emphasis on reducing potential risks that may threaten human health or the environment. This will be accomplished by ensuring that MMD-1 test personnel handling hazardous waste are thoroughly familiar with, and can properly perform, their assigned duties and responsibilities. In addition to providing training in the mechanics of the MMD-1 operations, this training program will provide MMD-1 test personnel with an understanding of the MMD-1 operations, including safety and emergency response operations.

This training program meets the requirements of 40 CFR 264.16 and R315-8-2.7 by:

- Providing training specific to the various MMD-1 test hazardous waste management positions
- Ensuring that personnel complete their training program within 6 months of their assignment to the MMD-1 test site or to a new position associated with the MMD-1 test
- Ensuring that the training program is directed by qualified personnel trained in hazardous waste management procedures
- Providing training which ensures that MMD-1 test personnel are able to respond effectively to emergencies
- Providing annual review
- Maintaining required documentation at Teledyne Brown Engineering (the Small Burial Contractor [SBC]), Huntsville, Alabama, and at the field test site at Dugway Proving Ground (DPG), Utah
- Maintaining training records on current MMD-1 test personnel until closure of the MMD-1 at DPG
- Maintaining training records on former MMD-1 test personnel for at least 3 years from the date the employee last worked at the MMD-1 test site
- Ensuring that MMD-1 test personnel do not work unsupervised until they complete the requisite training
- Ensuring that MMD-1 test personnel do not engage in waste management operations until they have completed the requisite health and safety training [Occupational Safety and Health Administration (OSHA) 29 CFR 1910.120].

6.2 MMD-1 TEST PERSONNEL

MMD-1 test personnel will consist of contract personnel supplied by the SBC who will perform the hands-on test operations of the MMD-1. SBC MMD-1 test personnel will complete training specific to the MMD-1 test activity and site training required by DPG. The MMD-1 SBC test personnel will consist of:

- Site Manager
- Air Monitoring Specialist(s)
- Chemist
- Laboratory Technician(s)
- Lead Operator
- Operator(s)
- Maintenance and Supply Manager
- Administrative Assistant
- Environmental Scientist
- Test Engineer
- Site Safety and Health Officer
- Data Manager
- Data Entry Clerk.

Job titles, duties, and minimum qualifications required to fill the SBC MMD-1 test personnel positions are provided in **Appendix 6A**.

6.3 MMD-1 TEST VISITORS, INSPECTORS, OBSERVERS, AND NON-ROUTINE WORKERS

During the MMD-1 test activity, certain personnel may be present who will not actively or routinely engage in hazardous waste treatment or handling operations. These personnel may be visitors such as regulatory agency inspectors; Chemical Warfare Convention (CWC) inspectors/observers; independent contractor data collectors/observers/inspectors; and non-routine workers such as electricians and fitters needed to repair equipment or perform building repairs.

These types of personnel will, at a minimum, receive General MMD-1 Personnel Training that provides an overview of MMD-1 test facility operations, operational zone requirements, hazards communication, and specific emergency response actions, including roles, responsibilities, and procedures prior to gaining access to the MMD-1 Building 3445 Facility areas. In addition, these personnel may also attend a daily safety briefing, as applicable and other training on the MMD-1 system and its operation, depending on the level of participation or work activity to be conducted during test operations. **Table 6-1** identifies the category, describes potential duties, and identifies required training for visitors, inspectors/observers/data collectors, and non-routine workers. CWC, independent contractor personnel, and some non-routine workers are categorized by level of potential duties during the MMD-1 test (Level 1, 2, or 3). Training course descriptions for visitors, inspectors/observers/data collectors and non-routine workers are presented in **Appendix 6B**. Training records for the MMD-1 Test visitors, inspectors/observers/data collectors, and non-routine workers will be maintained by the SBC at the Building 3445 facility and will be kept on file until closure of the MMD-1. The remaining portions of Section 6 focus on the training requirements and implementation for the MMD-1 test personnel as these personnel are primarily responsible for conducting the test activity and performing hands-on hazardous waste operations.

6.4 OUTLINE OF TRAINING PROGRAM [40 CFR 264.16(a)(1); R315-8-2.7(a)(1)]

In general, MMD-1 test personnel will receive the following training commensurate with their job duties and responsibilities:

- Hazardous waste operations and emergency response (per 29 CFR 1910.120)
- Communications and alarm systems
- Health hazard communication (per 29 CFR 1910.1200)
- Hazardous waste management procedures, including use, inspection, repair, and replacement of emergency and monitoring equipment; container and tank management; labeling and weekly inspections of less than 90 day storage areas; waste sampling and waste determinations; management of P999 and F999 solids and liquids; and spill reporting for chemical agent
- Contingency plans and emergency response procedures
- Response to fires or explosions
- First aid (including blood borne pathogen) and cardiopulmonary resuscitation (CPR)
- Protective clothing and equipment
- Key parameters for automatic waste feed cut-off systems (as applicable)
- Shutdown of operations
- Response to soil and groundwater contamination
- Medical surveillance

The MMD-1 training program will incorporate training required by RCRA, OSHA, and the U.S. Army (for chemical agent/industrial chemical). This will comprise both initial training and continuing training. Training will encompass instructions on specific duties and responsibilities relative to an individual's hazardous waste activities, including specific instructions pertaining to operation of the MMD-1, treatment process/chemistry, and waste handling of process wastes for disposition offsite.

Initial training for MMD-1 test personnel will be provided in four phases. These four phases are:

- Compliance Training
- MMD-1 Subsystem Qualification Training
- Team/System Training
- Site-specific DPG Training.

Table 6-1.
Training Requirement Overview for MMD-1 Visitors, Inspectors, Observers, and Non-Routine Workers

Category	Description of Potential Duties	Required Training ^a
Visitor (regulatory agencies such as Utah DSHW, EPA, and DHHS; DPG, PMNSCM, CBD COM and contractors, and others).	May observe hot ^a operations remotely from Control Trailer, Building 3445 control room/office rooms, or at Visitor Trailer. May observe and inspect waste treatment, storage, and handling areas in person during MMD-1 test operations only as safety measures permit.	General MMD-1 Personnel Training Mask Training ^b
Contractor Waste Handlers (Non-routine workers ^c).	Verifies hazardous waste containers for shipment offsite; transports hazardous waste containers offsite to permitted treatment, storage, and disposal facility. May observe sample collection remotely for surge tanks and liquid reactor vessel.	General MMD-1 Personnel Training Mask Training ^b
Independent Contractor Inspectors, Observers, Data Collectors.	Level 1 - Observes, inspects, or collects data in person when hot operations have been completed and monitoring results show that it is safe to do so.	General MMD-1 Personnel Training 24-Hour HAZWOPER Training Mask Training MMD-1 Specific Training ^d
	Level 2 - Observes, inspects, or collects data in person during hot ^a operations dressed in appropriate PPE. Does not perform any sampling or hands on activities with waste material.	General MMD-1 Personnel Training 24-Hour HAZWOPER Training Mask Training MMD-1 Specific Training ^d Use of OSHA PPE ^e
	Level 3 - Observes, inspects, or collects data in person during hot ^a operations dressed in appropriate PPE and may perform sampling or hands on activities with waste material.	General MMD-1 Personnel Training 24-Hour HAZWOPER Training Mask Training MMD-1 Specific Training ^d Use of OSHA PPE ^e
Craftsmen or maintenance personnel attending to repairs on MMD-1 equipment or the Building 3445 facility (Non-routine workers ^b)	May or may not involve repairs to equipment suspected of hazardous waste contamination.	General MMD-1 Personnel Training 24-Hour HAZWOPER Training Mask Training ^b MMD-1 Specific Training ^d Use of OSHA PPE ^e

Table 6-1. Training Requirement Overview for MMD-1 Visitors, Inspectors, Observers, and Non-Routine Workers		
Category	Description of Potential Duties	Required Training ^a
<p>Notes:</p> <p>a Hot operations are defined as the processing or treatment of chemical agent or the industrial chemical phosgene.</p> <p>b Required for entry to Carr Facility</p> <p>c This table presents training that will be provided by PMNSCM for identified personnel. It is assumed that non-routine workers to the MMD-1 test site will already hold a certificate in the OSHA 24-hour HAZWOPER required training for RCRA treatment, storage, and disposal facilities.</p> <p>d Training topics required will be pertinent to an individual's specific activity.</p> <p>e Will be trained in the PPE required to perform a task.</p> <p>CWC = Chemical Warfare Convention</p> <p>DSHW = Department of Solid and Hazardous Waste</p> <p>EPA = Environmental Protection Agency</p> <p>DHHS = Department of Health and Human Services</p> <p>DPG = Dugway Proving Ground</p> <p>PMNSCM = Project Manager for Non-Stockpile Chemical Materiel</p> <p>CBDCOM = Chemical and Biological Defense Command</p>		

Initial training requirements must be met within the first 6 months of employment at the MMD-1 test site or new job assignment at the MMD-1 test site. Continuing training includes all training beyond initial training and will include refresher courses (for example, OSHA training) and other applicable and appropriate hazardous waste management training.

The following paragraphs describe the four phases of initial training for the MMD-1 test personnel.

6.4.1 Compliance Training Phase

Regulatory training provides an overview of applicable Federal, state, and local regulations, and training on waste handling, contingency plans, emergency response, communications and alarm systems, and emergency response procedures. First aid/CPR and initial OSHA and health hazard communication training will also be provided. Compliance training may be provided by commercial vendors and/or SBC instructors.

6.4.2 MMD-1 Subsystem Qualification Training Phase

MMD-1 Subsystem Qualification training uses selected MMD-1 equipment subsystems. This training includes introductory hardware familiarization, procedure development, and instruction on the operation and maintenance of MMD-1 hardware. Training is conducted by the manufacturer/suppliers of the MMD-1 hardware, SBC instructors, and supervisors in on-the-job training sessions.

6.4.3 Team/System Training Phase

Team/System training will be conducted to review proper operating techniques and procedures. Routine, non-routine, and emergency operations, as well as operations in various levels of PPE, will be discussed.

Training will be accomplished through on-the-job training that relies on (learning-by-doing.) Training will use simulated equipment test hardware (SETH) with the MMD-1 Operations and Maintenance manuals and the test operational procedures developed for processing chemical warfare materiel (CWM) at DPG.

6.4.4 Site-Specific DPG Training Phase

DPG training will include health and safety requirements specific to Dugway. Topics and courses include lockout/tagout requirements specific to DPG, hazardous communications specific to DPG, electrical safety training, and use of fire extinguishers.

Outlines for the MMD-1 courses described in the above sections are provided in **Appendix 6C**.

6.5 TRAINING CONTENT, FREQUENCY, AND TECHNIQUES [40 CFR 264.16; R315-8-2.7]

Training will be conducted using a variety of training techniques, including classroom instruction, demonstrations, drills, and on-the-job training. Examinations will be given as appropriate to verify trainee comprehension of the subject matter. On-the-job training will include a performance checklist administered by the supervisor or designated representative.

Continuing training will also consist of a combination of classroom instruction, drills, and on-the-job training. In addition to the initial and continuing training, prior to daily startup of MMD-1 test activities, a prework briefing will be presented by the SBC and DPG Site Safety and Health Officers (SSHOs) and will address the topics below:

Names of test personnel and alternates responsible for site health and safety:

- Safety, health, and other hazards present at Building 3445 as documented in the site-specific health and safety plan, and additional hazards, if any, found during the MMD-1 test
- Use of site-specific PPE
- Work practices that will minimize risks from hazards and exposure
- Safe use of engineering controls and equipment that are present on the site
- Physical and chemical health hazards, including recognition of symptoms and signs that may indicate overexposure to such hazards
- Emergency response/contingency plans, including notification process, routes of escape, and name of emergency coordinator
- Importance of the buddy-system (Atwo-man rule@)
- Any other site-specific features as deemed necessary by the SSHO
- Inspection of all power equipment at the start of each day.

6.6 MMD-1 TRAINING DIRECTOR [40 CFR 264.16(a)(2); R315-8-2.7(a)(2)]

The MMD-1 Training Director will be responsible for training activities of the MMD-1 test personnel. The Training Director will be knowledgeable in all aspects of operation of the MMD-1, and will be experienced in hazardous waste management activities and in training principles and practices. The responsibilities of the Training Director will be to:

- Coordinate training of MMD-1 test personnel in the proper operation of the MMD-1 in accordance with Federal, state, Army, and local environmental regulations
- Coordinate continuing training as necessary to inform MMD-1 test personnel of new procedures, provide refresher training, and provide training for new test personnel
- Identify and review vendors and other training resources to meet environmental requirements
- Ensure that training records are maintained in accordance with 40 CFR 264.16(d) and (e) and R315-8.2-7(d) and (e)
- Ensure that MMD-1 test personnel are trained in hazardous waste management and contingency plan implementation, including emergency procedures
- Ensure that MMD-1 test personnel receive training appropriate to their positions

The qualifications of the MMD-1 Training Director are provided in **Appendix 6A**.

6.7 RELEVANCE OF TRAINING TO JOB POSITION [40 CFR 264.16(a)(2); R315-8-2.7(a)(2)]

The MMD-1 training program tailors course requirements to the subject areas and levels of detail appropriate for each position. The regulatory training relevant for each SBC MMD-1 test position is presented in a training matrix in **Table 6-2**.

6.8 TRAINING FOR EMERGENCY RESPONSE [40 CFR 264.16(a)(3); R315-8-2.7(a)(3)]

Emergency response training will be provided to all MMD-1 test personnel. At a minimum, the training program will be designed to ensure that MMD-1 test personnel are able to respond effectively to emergencies by familiarizing themselves with Building 3445 and MMD-1 emergency procedures, equipment, and systems, including:

- Procedures for using, inspecting, repairing, and replacing MMD-1 emergency and monitoring equipment
- Location and use of communications and alarm systems
- Implementation of the contingency plan and appropriate emergency notifications
- Shutdown operations. Normal shutdown operations will occur daily and at the conclusion of MMD-1 operations. Training for normal shutdown operations will include housekeeping duties; if necessary, removing waste from the processing area and performing preventive maintenance checks and services
- Emergency operations. MMD-1 operators will be trained to identify, contain, and mitigate the effects of an emergency condition. Activation of the chemical materiel monitoring alarms in the workspace and failure of mechanical equipment resulting in serious injury are examples of emergency incidents
- Non-routine operations. If a spill of liquid chemical agent or an industrial chemical is detected outside engineering controls, or if a leak is suspected, non-routine operational procedures will be implemented
- Response to fires and explosions. Training in response to fires and explosions will be provided as part of the general MMD-1 test personnel training
- Response to soil and groundwater contamination incidents. Training in response to soil and groundwater contamination incidents, particularly for spill response.

Table 6-2.
Munitions Management Device, Version 1 Required Training for SBC Test Personnel

Course Title	Personnel												
	1 ^a	2	3	4	5	6	7	8	9	10	11	12	13
Compliance Training Phase													
CPR ^b /First Aid ^b /Bloodborne Pathogen ^c	X	X	X	X	X	X	X	X	X	X	X	X	X
HAZCOM/Toxic Aid Briefing	X	X	X	X	X	X	X	X	X	X	X	X	X
24-Hour TSDF HAZWOPER ^d [OSHA 1910.120(p)]	X	X	X	X	X	X	X	X	X	X	X	X	X
RCRA/Hazardous Waste Management ^e	X	X	X	X	X	X	X	X	X	X	X	X	X
RCRA Air Emission Requirements	X			X			X				X		
Forklift Training							X	X					
Hazardous Materials Transportation	X	X	X	X	X	X	X	X	X	X	X	X	X
Chemical Hygiene									X	X			
MMD-1 Subsystem Qualification Training^g Phase													
Digital Control and Instrumentation System		X					X	X					
MINICAMS ⁷ Operator											X		
Depot Area Air Monitoring Systems									X	X	X		
Viking GC/MSD Operations/Maintenance											X		
Liquid/Vapor Sampling Panel									X	X			
Monitor Sampling Systems and Laboratory Integration									X	X			
Team/System Training Phase													
Operations with SETH Items	X	X	X				X	X					
Dugway Site-Specific Training Phase	X	X	X	X	X	X	X	X	X	X	X	X	X
NOTES: a HAZWOPER Supervisor required plus annual supervisor refresher b Annual recertification required c Annual refresher required d Annual OSHA 8-hour refresher required e Annual refresher required f Triennial refresher required g Annual equipment and procedural refresher required h Includes: Coliwasa/Sample Scoop pH Analysis Colorimetric Tube Sample Preparation Dynatherm Wet Chemistry GC/FPD	PERSONNEL: 1. Site Manager 2. Test Engineer 3. Site Safety And Health Officer 4. Environmental Scientist 5. Maintenance And Supply Manager 6. Administrative Assistant 7. Lead Operator 8. Operator(s) 9. Chemist 10. Laboratory Technician(s) 11. Air Monitoring Specialist 12. Data Entry Clerk 13. Data Manager												

Certain operations under specific non-routine and emergency conditions will be examined to assess MMD-1 test personnel training and performance of prescribed procedures. Non-routine conditions will include the simulated release of chemical agents within the process trailer workspace, which is under engineering controls. Emergency conditions will include serious injury or illness of a team member, or fire in the MMD-1 process trailer or Building 3445.

6.9 IMPLEMENTATION OF TRAINING PROGRAM [40 CFR 264.16(b); R315-8-2.7(b)]

SBC test personnel will be required to complete training specific to their job assignment within 6 months of assignment to the MMD-1 test at DPG and will not work unsupervised until training has been successfully completed. Furthermore, test personnel must complete the requisite training prior to engaging in any hazardous waste operations. The MMD-1 test personnel course descriptions are provided in **Appendix 6C**.

6.10 TRAINING RECORDS [40 CFR 264.16(d) and (e); R315-8-2.7(d) and (e)]

Training records for the SBC MMD-1 test personnel will be maintained at Teledyne Brown Engineering, Huntsville, Alabama, and the field test site at DPG, and will include, at a minimum:

- Job title for each position that is related to MMD-1 hazardous waste management operation and activities, and the name of each employee filling the position
- Job description specifying duties for each position, minimum qualifications required to fill the position, and required training for the position
- Description of the type and amount of introductory and continuing training that will be given to each employee
- Date each employee started working on the MMD-1 test
- Course enrollment, attendance, and successful completion information
- Copies of course materials and instructional methods (outlines, schedules, instructional techniques, and materials).

All training records and documentation on current MMD-1 test personnel will be kept until closure of the MMD-1 at DPG. Training records on former MMD-1 test personnel will be kept for at least 3 years from the date last worked at the MMD-1 test.

APPENDIX 6A
SMALL BURIALS CONTRACTOR
MUNITIONS MANAGEMENT DEVICE, VERSION 1
TEST PERSONNEL JOB TITLES, DUTIES, AND REQUIRED TRAINING

MMD-1

This section lists the positions that comprise the MMD-1 Test Personnel. For each position a description of the responsibilities for each position is included, along with the education, experience, medical and physical requirements that are to be applied to that job description.

Team Teledyne has the authority to evaluate academic and job experience to determine an applicant's qualifications for any position on the MMD-1 test site. The decision to substitute education and/or experience requirements must be approved by the Project Manager and the Program Environmental Compliance Manager with concurrence from the Site Manager. As a minimum, each applicant must be trained and certified in accordance with the training requirements listed in Appendix 6 of the MMD-1 RD&D RCRA permit, issued May 14, 1999, prior to performing his or her duties in an unsupervised status.

Site Manager

Job Description:

Responsible for supervision of all Team Teledyne (TT) activities during MMD-1 testing at DPG, Utah. Responsibilities include safety, training, scheduling, testing, regulatory compliance, and customer interface. Other duties include: acts as primary TT focal point for interface with DPG support activities and other government agencies at DPG. Ensures that all personnel are trained and able to safely perform their assigned duties. Provides daily site status reports to the customer and other government agencies. Serves as a member of the hazard analysis working group (HAWG) for off-nominal recovery operations. Establishes and promulgates daily schedule and work routines. Ensures that all data management, handling, site-storage, analysis, and archiving functions are performed effectively and efficiently to support daily report generation and data submittal. Responsible for hazardous waste handling and processing.

Education: BS degree in a technical field.

Experience: 15 years of experience in chemical weapons and hazardous waste operations. Field test operations experience desirable.

Medical: Satisfactory completion of a physical examination for hazardous waste site workers to include drug screen, standard color-blindness test, Acetylcholinesterase baseline, and slit-lamp test for mustard agent.

Physical: Physical stamina and ability to operate in OSHA Level A PPE.

Lead Operator

Job Description:

Supervises all MMD-1 operators during MSM, UPA, and MTV operations and training to include reagent preparation. Supports the Test Engineer during MMD-1 processing operations and training and the Environmental Scientist during waste handling operations. Maintains custody of MSM keys. Operates the MMD-1 (operations) radio net base station. Maintains custodial documents file and MSM access roster. Assists in waste handling and processing as required.

Education: BS degree or equivalent experience.

Experience: 10 years of experience in chemical weapons and hazardous waste management to include field-test operations experience.

Medical: Satisfactory completion of a physical examination for hazardous waste site workers to include drug screen, standard color-blindness test, Acetylcholinesterase baseline, slit-lamp test for mustard agent, and cardiovascular stress test.

Physical: Physical stamina and ability to operate in OSHA Level A PPE.

Air Monitoring Specialist

Job Description:

Responsible for operation and maintenance of MINICAMS® and Depot Area Air Monitoring System (DAAMS) stations. Responsible for calibration, challenge, and tuning of monitoring equipment. Monitors using Colorimetric tubes when required. Maintains chain-of-custody records for samples and records of monitoring results to include baseline monitoring. Implements overall site monitoring plan. Performs first entry monitoring, when required. Assists in waste handling and processing as required.

Education: Associates degree or equivalent experience with 1 year air monitoring.

Experience: 3 years of experience in hazardous waste operations. MINICAMS® familiarity desired.

Medical: Satisfactory completion of a physical examination for hazardous waste site workers to include drug screen, standard color-blindness test, Acetylcholinesterase baseline, and slit-lamp test for mustard agent.

Physical: Physical stamina and ability to operate in OSHA Level A PPE.

Chemist

Job Description:

Supervises the daily operation of the mobile laboratory and its personnel. Performs quality checks and provides daily reports to the site manager. Maintains records of lab personnel training and qualifications; records on all laboratory equipment, preventive maintenance, and calibration, and records of all waste and monitoring analyses and results. Responsible for monitoring concept and execution. Assists in waste handling and processing as required.

Education: BS degree in Chemistry or related field

Experience: 7 years of experience in laboratory operations to include GC/MS proficiency. Field laboratory experience desirable.

Medical: Satisfactory completion of physical examination for hazardous waste site workers to include drug screen, standard color-blindness test, Acetylcholinesterase baseline, and slit-lamp test for mustard agent.

Physical: Physical stamina and ability to wear Air Purifying Respirator (APR) for short periods of time during emergency operations involving hazardous chemicals

Laboratory Technician

Job Description:

Performs chemical analyses using GC/MS and wet chemistry. Analyzes DAAMS tube, waste streams and liquid and vapor samples from the process trailer as required. Performs QA/QC checks as required. Performs preventive maintenance and calibration checks on lab equipment. Maintains records on maintenance, calibration, and data results of analyses.

Education: Associate's degree in Chemistry or 2 years laboratory experience may be substituted for each year of college.

Experience: 3 years of experience in laboratory operations to include GC/MS instrumentation and operation proficiency. Experienced in proper sample collection and handling techniques.

Medical: Satisfactory completion of a physical examination for hazardous waste site workers to include drug screen, standard color-blindness test, Acetylcholinesterase baseline, and slit-lamp test for mustard agent.

Physical: Physical stamina and ability to operate in OSHA Level A PPE.

MMD-1 Operator

Job Description:

Responsible for all CWM handling in accordance with established SOPs. Performs CWM receipt inspections and storage of CWM items in the MSM. Performs first entry inspections and transfer of CWM from MSM to UPA. Unpacks CWM from over packs, seals leaks, and decontaminates CWM and work area. Moves CWM from UPA to process trailer and loads CWM into MTV. Unloads CWM carcass from MTV and performs size reduction operations in the UPA. Removes hazardous waste from UPA when directed. Assists in hazardous waste handling/processing. Participates in recovery operation during emergency exercises/operations. Collect vapor and liquid samples from the process trailer sample panel as required. Prepares bulk reagent for transfer to reagent tank. Performs MMD-1 operator level maintenance.

Education: Associate's degree or equivalent experience

Experience: 7 years of experience in chemical weapons, hazardous waste operations, and operator level maintenance.

Medical: Satisfactory completion of a physical examination for hazardous waste site workers to include drug screen, standard color-blindness test, Acetylcholinesterase baseline, and slit-lamp test for mustard agent, and cardiovascular stress test.

Physical: Physical stamina and ability to operate in OSHA Level A PPE.

Maintenance and Supply Manager

Job Description:

Responsible for maintenance and supply support for the MMD-1 system. Provides maintenance support and prepares calibration documentation. Procures supplies for the MMD-1. Track and schedule all maintenance and calibration for all MMD-1 components. Perform electronic troubleshooting and repair of equipment. Develop and maintain the required spares and repair parts, and consumables inventory during the test. Provide security and operations support as required. Operate the Emergency Personnel Decontamination Station (EPDS) as required. Assists in hazardous waste handling and processing as required.

Education: BA/BS degree. May substitute 2 years of related experience for each year of college.

Experience: 10 years of experience in supply and maintenance operations; chemical weapons and hazardous waste management is desirable. Field operations testing experience desired.

Medical: Satisfactory completion of a physical examination for hazardous waste site workers to include drug screen, standard color-blindness test, Acetylcholinesterase baseline, and slit-lamp test for mustard agent.

Physical: Physical stamina and ability to wear Air Purifying Respirator (APR) for short periods of time during emergency operations involving hazardous chemicals

Administrative Assistant

Job Description:

Provides all MMD-1 test team administrative support. Coordinates on-site and off-site travel rental cars, and housing; procures administrative supplies; arranges for team meals during extended or emergency operations; maintains site access rosters and maintains key control roster. Prepares the daily report for Site Manager's review and approval upon receipt of daily report inputs from required team members. Provides site administrative control to include but not limited to training records, retraining schedule, medical certification records and emergency recall roster.

Education: 2 years of college.

Experience: 5 years of administrative experience and computer literate.

Medical: Satisfactory completion of a physical examination for hazardous waste site workers to include drug screen, standard color-blindness test, Acetylcholinesterase baseline, and slit-lamp test for mustard agent.

Physical: Physical stamina and ability to wear Air Purifying Respirator (APR) for short periods of time during emergency operations involving hazardous chemicals

Environmental Scientist

Job Description:

Ensures compliance with all State, Federal, and DOD environmental rules, regulations, and laws during MMD-1 testing operations. Conducts environmental baseline studies to ensure that the DPG site is ready for operations and for historical reference. Ensures that all hazardous waste is properly marked, handled, manifested and disposed of in accordance with regulatory requirements. Ensures compliance with RCRA Permit. Oversees all hazardous waste handling activities to include satellite and less than 90-day waste storage areas. Verifies mobile laboratory and CWM chain of custody procedures. Performs custodial function for CWM.

Education: BS degree in Environmental Engineering, Biology, and Chemistry, Chemical Engineering related field or equivalent work experience.

Experience: 10 years of experience in environmental management and hazardous material/waste management.

Medical: Satisfactory completion of a physical examination for hazardous waste site workers to include drug screen, standard color-blindness test, Acetylcholinesterase baseline, and slit-lamp test for mustard agent.

Physical: Physical stamina and ability to operate in OSHA Level A PPE.

Test Engineer

Job Description:

Responsible for testing the MMD-1 at DPG in accordance with MMD-1 Detailed Test Plan and SOPs. Monitors/assists the Lead Operator during both Simulated Engineering Test hardware (SETH) and CWM (hot) operations. Verifies system performance parameters and safety critical controls prior to operations, and continually monitors them during operations. Performs data reduction and analysis as required to determine probable causes and develops recommended corrective actions for hardware, software, and procedures. Supports emergency response operations and other site activities as required. Assists in waste handling and processing as required.

Education: BS degree in Chemical, Mechanical, or Electrical Engineering.

Experience: 10 years of experience in chemical process control, systems engineering, and operational testing.

Medical: Satisfactory completion of a physical examination for hazardous waste site workers to include drug screen, standard color-blindness test, Acetylcholinesterase baseline, and slit-lamp test for mustard agent.

Physical: Physical stamina and ability to operate in OSHA Level A PPE.

Site Safety and Health Officer

Job Description:

Provides overall safety support to the Site Manager. Ensures that all on-site activities are conducted in compliance with applicable health, and safety SOPs and regulatory requirements. Ensures that safety, health, and environmental controls are in place and in accordance with local, state, and federal regulations. Verifies that all personnel are trained in accordance with Team Teledyne, Army, OSHA, Utah, and DPG site and operations requirements. Performs site safety (tailgate safety) briefing daily. Develops and coordinates with appropriate agencies site emergency response plans. Ensures that emergency responses SOPs and equipment are in place, adequate, and that personnel are trained in emergency actions. Ensures that hazardous wastes are handled and disposed of safely and in accordance with regulatory requirements. Accomplishes site QA/QC program. Assists site Environmental Scientist with hazardous waste management. Assists in waste handling and processing as required.

Education: BS degree in a technical field or equivalent work experience in areas of Safety and/or Health.

Experience: 10 years of experience in health and safety management and hazardous materials/waste operations.

Medical: Satisfactory completion of a physical examination for hazardous waste site workers to include drug screen, standard color-blindness test, Acetylcholinesterase baseline, and slit-lamp test for mustard agent.

Physical: Physical stamina and ability to operate in OSHA Level A PPE.

Data Manager

Job Description:

Responsible for all Technical Data management for the MMD-1 Test at DPG. Responsibilities include dissemination of all data products to end-users; ensuring that the documentation and SOPs used for operations are the currently approved version; supervises/controls the storage areas where required data Operating Records are kept and archived for the test. Assists in waste handling and processing as required.

Education: High School diploma.

Experience: Two years of experience in data management. Computer literate in using database and word processing software.

Medical: Satisfactory completion of a physical; examination for hazardous waste site workers to include drug screen, standard color-blindness test, Acetylcholinesterase baseline, and slit-lamp test for mustard agent.

Physical: Physical stamina and ability to wear Air Purifying Respirator (APR) for short periods of time during emergency operations involving hazardous chemicals.

Data Entry Clerk

Job Description:

Responsibilities include: data entry from hard copy forms into computer database; filing, and general record keeping; typing reports and other correspondence; generating database reports. Assists the Maintenance and Supply Manager as directed with data entry, material requisitions, and maintenance of the supply and maintenance database. Operates fax machine, copiers, and other office equipment. Works under the supervision of the Site Supervisor. Performs other duties as assigned within his/her qualifications.

Education: Associate's degree in Office Administration or related discipline; or 4 years of experience in office administration.

Experience: Computer literate with experience in database, spreadsheet, word-processing, office equipment (FAX, copier, etc.)

Medical: Satisfactory completion of a physical examination for hazardous waste site workers to include drug screen, standard color-blindness test, Acetylcholinesterase baseline, and slit-lamp test for mustard agent.

Physical: Physical stamina and ability to wear Air-Purifying Respirator (APR) for short periods of time during emergency operations involving hazardous chemicals.

Training Director

Job Description:

Provides MMD-1 program level training management support to the MMD-1 Operator Program Manager. Responsible for ensuring that job descriptions match the technical skills required. Responsible for preparation of the program master training schedule and that all training is conducted in accordance with schedule. Ensures that training conducted meets applicable health and safety SOPs and regulatory requirements. Verifies that all personnel are trained to the levels cited in regulatory requirements. Maintains the training records at the home office and at the field site. Responsible for the procurement and scheduling of all contract and GFE training. Ensures that all employees have been trained to meet the latest published regulatory training requirements.

Education: BA/BS Degree.

Experience: Training in hazardous waste management procedures.

Medical: Satisfactory completion of a physical examination for hazardous waste site workers to include drug screen, standard color-blindness test, Acetylcholinesterase baseline, and slit-lamp test for mustard agent.

Physical: Not applicable.

APPENDIX 6B
MUNITIONS MANAGEMENT DEVICE, VERSION 1
TRAINING COURSE DESCRIPTIONS FOR VISITORS
AND INDEPENDENT CONTRACTOR INSPECTORS,
OBSERVERS, DATA COLLECTORS, AND NON-ROUTINE WORKERS

Title: General MMD-1 Personnel Training

Length: 2 hours (approximate)

Course Description: Describes in general terms MMD-1 test operations, regulations, hazards communication, safety considerations, roles and responsibilities, and specific emergency response actions including communications and alarm systems and evacuation procedures.

Topics:

- General site operations
- Roles and responsibilities
- Regulations/guidelines
- Operational zone requirements
- Required personal protective equipment
- Site hazards/safety concerns/Toxic Aid Briefing
- Communications and alarm systems
- Emergency procedures and evacuation.

Instructional Approach:

Course will be taught via lecture, video, or combination, and with the use of other visual aids and handouts, as appropriate.

Title: MMD-1 Specific Training

Length: Variable depending on the number of topics required per Level 1, 2, or 3 personnel

Course Description: Depending on an individual's activity, course topics may address the components of the MMD-1; how routine operations will be conducted; chemistry of treatment, monitoring, what happens during off normal operations, waste management activities, daily shutdown activities, and closure activities; and a description of the MMD-1 test plan.

Instructional Approach:

Topics will be classroom instruction, demonstrations, drills, and on-the-job training. On-the-job training will include a performance checklist administered by the supervisor or designated representative.

Title: OSHA Personal Protective Equipment (PPE)

Length: 4-6 hours

Course Description: Course provides basics of levels of PPE and work conducted wearing these levels of protection.

Topics:

- Type and Uses of PPE to be Worn For MMD-1 Test Activities
- Wearing PPE
- Working Constraints/Physical Limitations.

Instructional Approach:

Course will be conducted using videos, demonstrations, and field exercises. Students will participate in a site exercise following classroom instruction.

APPENDIX 6C
MUNITIONS MANAGEMENT DEVICE, VERSION 1 TEST PERSONNEL
TRAINING PROGRAM COURSE DESCRIPTIONS

Title: Compliance Training Phase

Length: Variable by course

Course Description: Compliance Training Phase consists of individual courses that satisfy the requirements of 29 CFR (OSHA), 40 CFR (RCRA), 49 CFR (DOT), and Army Regulation 385-61.

Courses:

- Cardiopulmonary Resuscitation (CPR)/First Aid (including bloodborne pathogens)
- 24-Hour Treatment, Storage, and Disposal Facility (TSDF) Hazardous Waste Operations and Emergency Response (HAZWOPER) [OSHA 1910.120(p)]
- TSDF HAZWOPER Annual Refresher
- Research Conservation and Recovery Act (RCRA) Compliance/Hazardous Waste Management
- RCRA/Hazardous Waste Management Annual Refresher
- Hazards Communication (HAZCOM)/Toxic Aid Briefing
- Hazardous Waste Management
- HM 181/126F (Waste Transportation)
- Forklift Training
- Sling/Crane Training.

The courses listed above are described in detail on the following pages.

Title: Cardiopulmonary Resuscitation (CPR)/Standard First-Aid (includes bloodborne pathogens)

Length: 8 hours

Course Description: This course demonstrates emergency action principles for heart attack, CPR, choking, bleeding and shock, burns, eye and nose injuries, bites and stings, fractures, splints, and poisonings.

Course Topics:

- Bloodborne pathogens
- Wounds
- Shock
- Artificial respiration
- Poisoning
- Burns
- Ill effects of heat and cold
- Bandaging
- Head injury
- Internal injury
- Gunshot wounds
- Infection
- Tetanus
- Animal bites
- Immobilization
- Heart attack
- Apoplexy
- Simple fainting
- Epilepsy
- Foreign objects in the eye
- Air passages
- Food passages
- Rescue and transfer
- One-rescuer CPR
- Obstructed airway
- Review.

Instructional Approach:

This course is taught per the requirements and standards of the American National Red Cross and American Heart Association.

Title: Treatment, Storage, and Disposal Facility (TSDF) Hazardous Waste Operations and Emergency Response (HAZWOPER)

Length: 24 hours

Course Description: This course fulfills training requirements found in 29 CFR 1910.120(p). It provides trainees with the knowledge and skills necessary to respond effectively to MMD-1 emergencies with minimal risk to personal safety and health, and to perform other duties in a safe and healthful manner so as not to endanger themselves or other employees.

Course Topics:

- Emergency Response Plan
 - Pre-emergency planning and coordination with DPG
 - MMD-1 personnel roles, lines of authority, and communication
 - Emergency recognition and prevention
 - Site security and control
 - Evacuation routes and procedures
 - Decontamination procedures
 - Emergency medical treatment and first aid
 - Emergency alerting and response procedures
 - Critique of response and follow up
- MMD-1 Standard Operating Procedures
- Personal Protective Equipment (PPE) and emergency equipment
- Procedures for handling emergency incidents
- Procedures for reporting incidents to local, state, and federal agencies.

Instructional Approach:

This course is taught by lecture and includes a field exercise with personnel working in PPE.

Title: TSDF HAZWOPER Annual Refresher

Length: 8 hours

Course Description: This course fulfills refresher-training requirements of 29 CFR 1910.120(p). It provides trainees with a review and update of topics covered in the initial course with emphasis on lessons learned and changes to the MMD-1 Emergency Response Plan and MMD-1 Standard Operating Procedures.

Course Topics:

- Review of incidents and lessons learned
- Review of Emergency Response Plan
- New/Revised MMD-1 Standard Operating Procedures
- Review of PPE and emergency equipment
- Changes to Emergency incident procedures
- Procedures for reporting incidents to local, state, and federal agencies
- Review of Carr Facility and Dugway Proving Ground emergency response procedures.

Instructional Approach:

This course is taught by lecture using operational documents as instructional aids.

Title: Resource Conservation and Recovery Act (RCRA) Compliance/Hazardous Waste Management (40 CFR 264.16)

Length: 8 hours

Course Description: The purpose of this course is to provide the trainee with an overview of the waste management operations (normal and emergency), and the regulatory framework, which governs these operations. It also describes facility and job-specific policies and procedures, including roles and responsibilities, waste handling practices, emergency response and contingency plans, communications and alarm systems, responses to hazardous waste releases, and shutdown of operations.

Course Topics:

- a. Regulatory overview
 - Overview of RCRA and Utah administration rules
 - Structure of RCRA and Utah administration rules
 - Hazardous waste generators
 - Treatment, storage, and disposal facilities (TSDFs)
 - Land disposal restrictions
 - Empty containers
 - Enforcement.
- b. Waste handling operations at MMD-1
 - Operational overview
 - Other hazardous waste management activities
 - Roles and responsibilities
 - Hazardous waste management procedures
 - Documentation requirements
 - Hazardous Waste Manifests
 - Sampling and analytical methods.
- c. Waste handling practices
 - Waste minimization
 - Waste characterization, sampling, and analysis
 - Waste tracking and labeling.

Title: RCRA Compliance/Hazardous Waste Management (continued)

- Waste packaging
 - Waste segregation
 - Waste disposal
 - Empty containers
 - Inspections.
- d. Emergency response and contingency plan

- Regulatory requirements for emergency response
 - What events trigger a response.
- e. Emergency planning overview
- U.S. Army, Dugway Proving Ground (DPG), and MMD-1 emergency response plans
 - Incident classifications
 - Proper emergency response activities.
- f. Emergency equipment, systems, and response procedures
- Hazardous waste management emergency equipment
 - Communications and alarm systems
 - Emergency contacts
 - Evacuation plan
 - Fire response
 - Explosion response
 - Hazardous waste release response
 - Groundwater and soil contamination response
 - Shutdown of operations
 - Temporary (less than 90 day) waste storage areas
 - Miscellaneous issues.

Instructional Approach:

This course is delivered via lecture using slides and other visual materials and equipment, as necessary (for example, maps, containers, and labels). Exercises and other trainee activities are incorporated to help ensure learning of the material.

Title: RCRA/Hazardous Waste Refresher (40 CFR 264.16)

Length: 4 hours

Course Description: The purpose of this course is to provide a review of the normal and emergency operations of the MMD-1 waste management activities and of the regulatory framework that governs these operations, which was provided in the introductory course. As such, it will cover the same topics as in the introductory course with an emphasis on new/modified regulations and their impact on operations, any new/modified operations and procedures, and a review of any incidences during the previous year and preventive solutions.

Course Topics:

- a. Regulatory overview
 - Review of RCRA and Utah hazardous waste regulations
 - Structure of RCRA and Utah hazardous waste regulations
 - Hazardous waste generators
 - TSDFs
 - Land disposal restrictions
 - Empty containers
 - Regulatory update.
- b. Review of MMD-1 waste handling operations at DPG Building 3445
 - Operational overview
 - Other hazardous waste management activities
 - Roles and responsibilities
 - Hazardous waste management procedures
 - Documentation requirements
 - Effects of regulatory changes.
- c. Waste handling practices
 - Waste minimization
 - Waste characterization, sampling, and analysis
 - Waste tracking and labeling
 - Waste packaging
 - Waste segregation
 - Waste disposal
 - Empty containers
 - Inspections.

Title: RCRA/Hazardous Waste Refresher (Continued)

- d. Emergency response and contingency plans
 - Regulatory requirements for emergency response
 - What events trigger a response.
- e. Emergency planning overview
 - DPG emergency response plans
 - Incident classifications
 - Proper emergency response activities.
- f. Emergency equipment, systems, and response procedures
 - Emergency equipment
 - Communications and alarm systems
 - Emergency contacts
 - Evacuation plan
 - Fire response
 - Explosion response
 - Hazardous waste release response
 - Soil and Groundwater contamination response
 - Shutdown of operations
 - Temporary (less than 90 day) waste storage areas
 - Miscellaneous issues.
- g. Review of incidents
 - Descriptions
 - Actions taken
 - Preventive solutions.

Instructional Approach:

This course is delivered via lecture using slides and other visual materials and equipment as necessary (for example, maps, containers, and labels). Exercises and other trainee activities are incorporated to help ensure learning of the material.

Title: Hazard Communication Training (HAZCOM)/Toxic Aid Briefing
(29 CFR 1910.1200, 40 CFR 311.1, 49 CFR 172.700, and AR 385-61)

Length: 8 hours

Course Description: This course familiarizes the employees with hazards and chemicals they will potentially be exposed to at the work site. It specifically addresses chemical warfare agents and industrial chemicals that will be encountered during the MMD-1 test.

Course Topics:

- OSHA overview
- Container labeling
- Warning
- Material Safety Data Sheets (MSDSs)
- Protective measures
- Chemical warfare agents and industrial chemicals to be used in the MMD-1 test
- Medical effects/potential routes of exposure
- Chemical/physical properties of chemical agents and industrial chemical
- Principles of first aid for nerve and blister agents and industrial chemical casualties.

Instructional Approach:

This course is taught by lecture using slides and other visual materials and equipment, as necessary.

Title: Hazardous Materials Transportation (49 CFR 172.700)

Length: 8 hours

Course Description: This course will provide training to personnel on all aspects of hazardous waste transportation.

Course Topics:

- Shipping papers
- Labeling
- Packaging and marking
- Loading/storage techniques
- Placarding
- Material Safety Data Sheets
- Hazardous Material Incident Reports
- Decontamination.

Instructional Approach:

This course is taught via lecture utilizing instructional aides, as applicable and necessary (for example, equipment, labels, etc.)

Title: Forklift Training

Length: 4 hours

Course Description: This course covers the subject material for those employees required to operate and maintain power trucks (forklifts).

Course Topics:

- Forklift specific features
- Safety
- Fuel handling
- Emergency Procedures
- Fundamentals of operation.

Instructional Approach:

This course is taught via lecture and practical exercise. A driving test is administered to determine the ability to operate the vehicle in its intended fashion.

Title: Sling and Crane Training

Length: 4 hours

Course Description: This course covers the subject material for those employees required to operate and maintain slings and cranes.

Course Topics:

- Safety
- Fuel handling
- Emergency procedures
- Fundamentals of operation.

Instructional Approach:

This course is taught via lecture and practical exercise. An operation/test is administered to determine the ability to operate the sling/crane as intended.

Title: MMD-1 Subsystem Qualification Training Phase

Length: Variable by course

Course Description: MMD-1 Subsystem training covers the operation and maintenance of selected MMD-1 subsystem equipment.

Courses:

- Digital Control and Instrumentation System (DCIS)
- MINICAMS® Operator Training
- Depot Area Air Monitoring System (DAAMS)
- Viking GC/MSD Operations/Maintenance
- Hydrogen Monitor
- Liquid/Vapor Sampling Panel
- Monitor Sampling Systems and Laboratory Integration
 - Colorimetric tube
 - Coliwasa/sample scoop
 - Gas chromatograph/Flame Photometric Detector
 - Dynatherm
 - pH analysis
 - Sample preparation
 - Wet chemistry

Instructional Approach:

Conducted by the equipment manufacturer/supplier, consists of demonstration and supervised practice, leading to operator qualification for MMD-1 operators using that equipment. Training is also accomplished by supervisor-led on-the-job training sessions.

Title: RCRA Air Emission Requirements for MMD-1

Length: 8 hours

Course Description: This course will provide an overview of the air emission requirements detailed in 40 CFR 264 and 265 subparts AA, BB, and CC (Utah R 315-7-26, -27, and -30), explain how the requirements are applicable to MMD-1 operations, and present compliance requirements.

Course Topics:

- Introduction
- Subpart AA - Process Vents
- Subpart BB - Air Emission Standards for Equipment Leaks
 - Applicability
 - Equipment Items Affected
 - Compliance Exemptions
 - Compliance Requirements
 - Leak Detection and Reporting
 - Equipment Design and Operating Requirements
 - Recordkeeping and Reporting Requirements
 - Repair Requirements
- Subpart CC - Air Emission Standards for Tanks, Containers, and Surface Impoundment's
 - Applicability
 - Components and Areas Affected
 - Exemptions
 - Control Requirements for MMD-1 Tanks
 - Control Requirements for MMD-1 Containers
 - Recordkeeping Requirements
 - Reporting Requirements

Title: Team/System Training Phase

Length: 640 hours

Course Description: This course will train personnel in proper MMD-1 and Building 3445 operating techniques and procedures. Routine, non-routine, and emergency operations, as well as operations in various levels of personal protective equipment, will be reviewed.

Course Topics:

- Overall operational procedures
- Maintenance
- Emergency operations
- Personal protective equipment
- Routine/non-routine operations.

Instructional Approach:

Training will be conducted using simulation equipment test hardware (SETH) to verify equipment training and to validate MMD-1 Operations and Maintenance Procedures, and the test operational procedures developed for detoxifying chemical warfare materiel in the MMD-1.

Title: Dugway Site-Specific Training Phase

Length: 16 hours (approximate; depending on topic)

Course Description: This course will train personnel in the health and safety requirements specific to DPG as well as specific information needed to function safely and effectively while onsite at DPG. Each topic is a separate class.

Topics:

- Control of Hazardous Energy (Lockout/Tagout)/Other Employees
- Electrical Safety Training - Unqualified Employee
- Hazardous Communications Specific to DPG
- Portable Fire Extinguisher/Training and Education.

Instructional Approach:

This course is taught via lecture using overhead slides, videotapes, handouts, demonstrations, and class questions and answers.